

Negotiating a new social contract for the extractive industries: what is the role of geoscientists?

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# Resource industries vs sustainability?









# Geoethics at the heart of all geoscience?





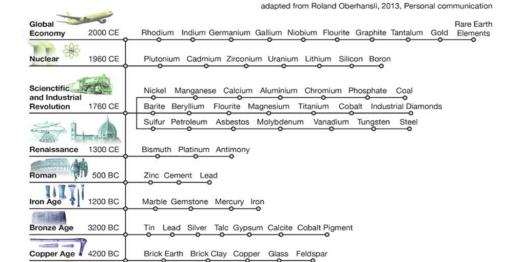




# Critical minerals to facilitate development

Mesolithic 50000 BC

- Improvement in the standard of living of many of the world's poorest has been driven in large measure by technological development
- That development has depended on the use of an increasingly wide range of metallic elements



Amber Jade Gold Clay Ceramic Basalt

Flint Obsidian Jade Ochre

Flint Obsidian

Critical Mineral Commodities through Western Civilization

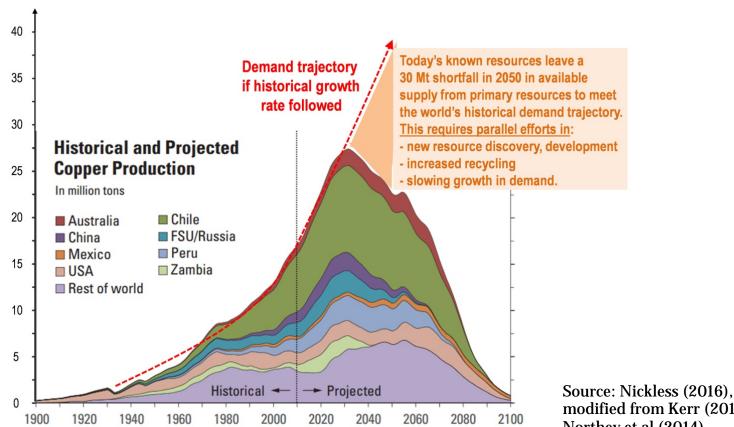
Source: Nickless (2016), modified from Oberhaensli (2013)

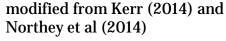






## Supply and demand: copper...



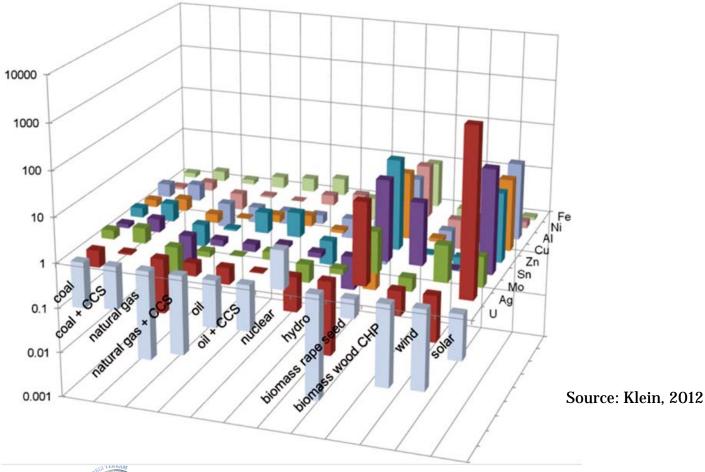








# Altered priorities ahead...









### What does a mine look like?







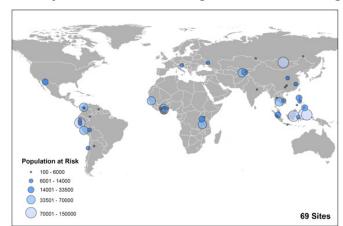


#### Some ethical considerations

- Safety
- Child labour
- Corruption and tax evasion
- Resource colonialism
- Environmental degradation
- Pollution (and exporting our environmental impacts)



Mercury Pollution from Mining and Ore Processing









# From 'social licence to operate' to 'social contract'

- Localised... atomised... minimal?
- A changing picture
- But what is missing?





















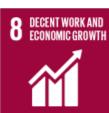






































# An opportunity





'...to bring world attention to the challenges of sustaining resource supplies and to outline a pathway to the future, including a route to nation-building and poverty alleviation through resource development'

A call to mobilise the global geoscience community to address a global challenge – scientific, technical, but also ethical

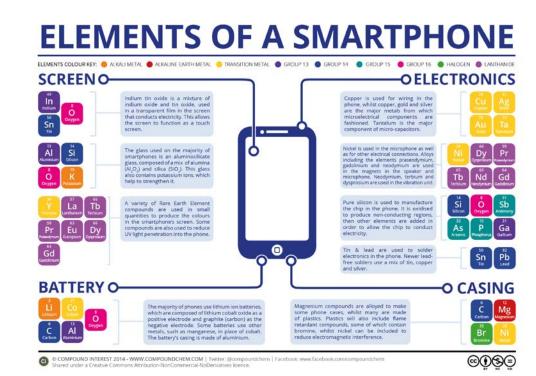






# Towards a new social contract for mining

- Global governance
- A holistic system view
- Political engagement
- Reconnecting consumers with the minerals they use









# Reconnecting with the minerals we use

- Raising awareness
- Changing behaviours
- Connecting people with the environmental and social impacts (positive and negative) of winning these resources
- What will work?







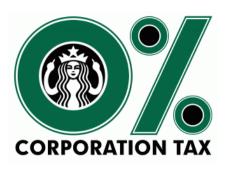


Each 1/2 pack serving contains

MED	LOW	MED	HIGH	MED
Calories	Sugar	Fat	Sat Fat	Salt
353	0.9g	20.3g	10.8g	1.1g
18%	1%	29%	54%	18%

of your guideline daily amount
Source: Food Standards Agency





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